Bounds for blocking time in a queuing system with an unreliable server

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Résumé

The characterization of the distributions by their qualitative properties made it possible to study characteristics of the systems such as : the mean stationary waiting time in the GI/GI/1 system and the mean time of life system constituted by two repairable elements.

In this work we consider a single-server queuing system with an unreliable server and service repetition. We consider exponential server failure time and service time belonging to a non parametric class (IFR, NBU, DFR and NWU class). Then we obtain bounds for the blocking time in the system by using lower and upper bounds of reliability functions presented by Sengupta (1994) and stochastic comparison given by Stoyan (1983).

Key words : Bounds, Nonparametric laws, blocking time, failure .